ABSTRACT

A metal-supported porous carbon film wherein metal fine particles with a mean particle diameter of 0.7-20 nm are dispersed and supported on pore surface walls, fuel cell electrodes employing the metal-supported porous carbon film, a membrane-electrode assembly comprising the fuel cell electrodes bonded on both sides of a polymer electrolyte film, and a fuel cell comprising the fuel cell electrode as a constituent element. The support structure is such that metal fine particles having a controlled particle size are uniformly supported to allow effective utilization of the metal-based catalyst, and the fabrication steps are simple.